

Model ATC-1000 TCP/IP to RS232/422/485 Converter User's Manual



1.0 Introduction

The ATC-1000 is a cost effective and highly integrated Serial-to-Ethernet Converter. Embedding a 8051CPU, 64KB OTP ROM, 32K bytes SRAM, 10/100Mbps Ethernet and serial port support handshake RTS, CTS. ATC-1000 Can control 1 x RS232/422/485 devices located virtually anywhere (via Ethernet or Internet).

Automatically finds devices in the network Configuration over Driver Panels, serial Port, Telnet, WEB Browser, SNMP Automatic mode switching between Driver and RAW mode Support TCP/IP, UDP, DHCP, PPPoE, Dynamic DNS.

2.0 Features:

- ◆ 3-in-1 RS-232/422/485 interface Max.230Kbps Serial interface and 10/100 Mbps Ethernet
- ◆ Supports 4- and 2-wire RS-485 with AUTO-SEND™ and built-in terminator
- ◆ Supports industrial 24 VDC power input and optional Power over Serial
- ◆ Terminal block accessories for easy RS-422/485 serial wiring
- ◆ Supports IP configuration by MAC address
- ◆ Supports configuration store and copy for easy deployment
- ◆ Supports Driver, TCP Server/Client, UDP Server/Client, Pair Connection operation modes
- ◆ Easy and powerful configuration program
- ◆ Approval CE, RoHS

3.0 . Hardware Installation & Initial Setup

3.1 RS-232 Pinout: (DB9 Male)

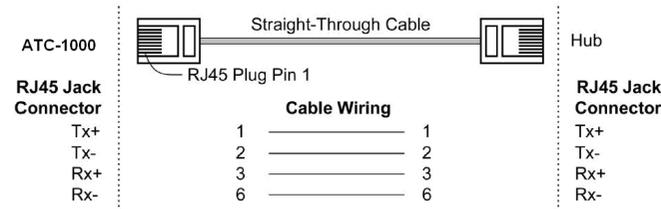
(DB9Male)	Signal	I/O
PIN2	RXD	IN
PIN3	TXD	OUT
PIN5	GND	-
PIN7	RTS	OUT
PIN8	RTS	IN

3.2 RS-422/485 Pinout: (six Terminal from left)

Terminal No	1	2	3	4	5	6
RS-422	T+	T-	R+	R-	VIN	GND
RS-485	485+	485-	-	-	VIN	GND

3.3 Connect to 10/100M:

ATC-1000 10/100/M Port connect to switcher or HUB use straight-Through Cable



3.4 Power Supply:

ATC-2000 TCP/IP converter can adopt the product's 9V power adapter for power supply or adopt power from other DC power or device.(+9--+24V@500-100mA)。

3.5 ATC-1000 LED indication :

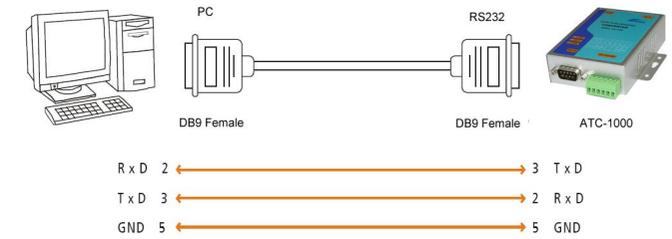
LINK — Indication Ethernet Link, Green on Ethernet Link established.

ACT — Data Sending/Receiving between Serial and the Ethernet

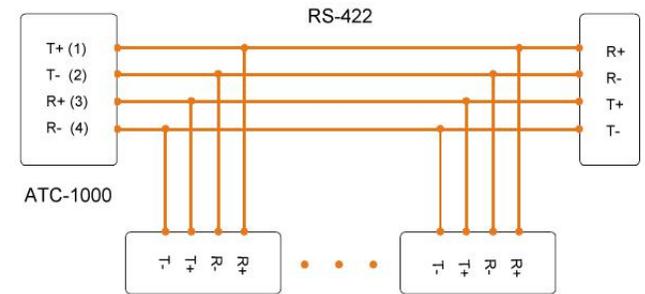
PWR — Indication Power

3.6 Connection Diagram

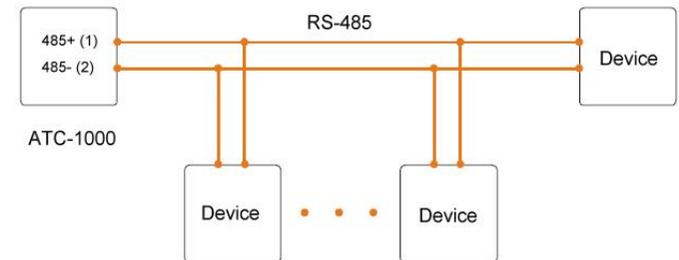
RS-232 Connection



RS-422 Connection



RS-485 Connection



4.0 Configuration and Operation

Use this section to set up your computer to assign it a static IP address in the 192.168.2.2 to 192.168.2.254 range with a subnet mask of 255.255.255.0. This is necessary to ensure that your computer can communicate with your ATC-1000. Your computer must have an Ethernet card and TCP/IP installed.

TCP/IP should already be installed on computer using Windows 98/2000/XP and later operating systems.

Step 1 : Open your web browser and type <http://192.168.2.1> in the browser's *address box*. This address is the factory set IP Address of your ATC-1000. Press "Enter".

Step 2 : The "ID and Password required" prompt box will appear. Typing "admin" (default username) in the ID field and typing "system" (default password) in the Password field. Click "OK". The setup screen will then appear.

User login to enter a password.

Default ID : admin

Default Password: system

4.2 The menu features as below:

All above the functions explain as below:

4.3 Administrator Setup

Manager of the relevant setting page.

4.4 Authentication Configuration

The Users can change the username and password to prevent unauthorized access.

Login ID and password authentication, the maximum is 15 characters and numbers.

User Name: default **admin**

Password: default **system**

Authentication Configuration

Setting	Value
Username	<input type="text" value="admin"/> max:15
Password Confirm	<input type="password" value="*****"/> max:15
<input type="button" value="Update"/>	

4.5 System IP Configuration

The ATC-1000 support three IP connection types: Static IP, DHCP. These types are listed in the Web page for the IP Configuration setting. Each setup screen and available features will differ depending on what kind of IP connection types you select. Default is Static IP

System IP Configuration

Setting	Value
IP Address	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="2"/> <input type="text" value="1"/>
Subnet Mask	<input type="text" value="255"/> <input type="text" value="255"/> <input type="text" value="255"/> <input type="text" value="0"/>
Gateway	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="2"/> <input type="text" value="254"/>
DNS	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="2"/> <input type="text" value="253"/>
IP Configure	<input checked="" type="radio"/> Static <input type="radio"/> DHCP
<input type="button" value="Update"/>	

Static (or Fixed) IP

IP Address: default 192.168.2.1

Subnet mask: default 255.255.255.0

Gateway: default 192.168.2.254

Primary DNS: default 192.168.2.253

If you are connecting through a static or fixed IP from your network environment, perform these steps :

Step 1: Enter IP address

Step 2: Enter Subnet mask

Step 3: Enter Gateway IP address

Step 4: Enter Primary DNS IP address

Step 5: click Update button

4.6 DHCP

Host Name (Optional): default **NETUART**, maximum length **15** characters

If there is a DHCP Server existing in your network environment or you subscribe a CABLE service from your ISP, you can set IP configuration to DHCP to get a dynamic IP address. The **Host Name** is an *optional* item, depending on your DHCP Server setting.

5.0 System Status

This screen shows the ATC-1000's current status. All of the information provided is read-only.

Kernel Version: the installed version of the kernel.

MAC Address: At present the device MAC Address

Nickname: the product model name of NetUART

System Status

MAC Address	00:00:11:33:FF:00
Nickname	<input type="text" value="NetUART"/> <input type="button" value="Update"/>
System Version	V3.0.060110

5.0 Load default setting

Allow Users to reset the ATC-1000 to return the initial value, but the MAC Address will not be updated.

Load Default Setting to EEPROM

Load

5.1 Telnet

Telnet connection setting:

Telnet Server/Client: Currently used to determine the device is to the Telnet Server or Client.

If the Server, show this connection have to wait for the other side of the Port, if the Client, show that external connections to the Port

Remote Server IP Address: When the Client, to be connected the other side of the server IP Address.

5.2 Operation mode

The ATC-1000 support four operation mode: TCP Server, TCP Client, UDP Server and UDP Client. These modes are listed in the Web page for the Operation Mode setting.

Each setup screen and available features will differ depending on what kind of operation mode you select.

Default is TCP Server.

5.3 TCP Server

Port Number: default **23**, range **0** to **65535**

If your device is acted as passive to accept commands from remote and the data be guaranteed to be received by peer is your concern, then you can set ATC-1000 as TCP Server. Be sure the value of item **Port Number** is same as your remote control application using.

Client mode inactive timeout (minutes): default **20**

(0=Disable)

If you want to keep the connection between ATC-1000 and your remote control application always on, then set the value of item

Client mode inactive timeout (minutes) to 0, otherwise, when the inactive time of no any traffic on line reach the setting value, ATC-1000 will terminate this connection.

5.4 TCP Client

Remote Connection Port Number: default **23**, range **0** to

65535

Remote Host IP Address: default **210.200.181.102**

If your device is acted as active to report real-time status to remote and the data be guaranteed to be received by peer is your concern, then you can set ATC-1000 as TCP Client. Be sure the value of item **Remote Connection Port Number** is same as your remote control application using and set the correct value of **Remote Host IP Address**.

5.5 UDP Server

Local Port Number: default **21**, range **0** to **65535**

If your device is acted as passive to accept commands from remote and the data be guaranteed to be received by peer is *not* your concern, then you can set ATC-1000 as UDP Server. Be sure the value of item **Local Port Number** is same as your remote control application using.

5.6 UDP Client

Remote Connection Port Number: default **21**, range **0** to **65535**

Remote Host IP Address: default 192.168.2.2

If your device is acted as active to report real-time status to remote and the data be guaranteed to be received by peer is *not* your concern, then you can set ATC-1000 as TCP Client. Be sure the value of item **Remote Connection Port Number** is same as your remote control application using and set the correct value of **Remote Host IP Address**.

Telnet Control

Item	Value
Telnet Server/Client	<input checked="" type="radio"/> Server <input type="radio"/> Client
Port Number	<input type="text" value="23"/>
Remote Server IP Address	<input type="text" value="210"/> <input type="text" value="200"/> <input type="text" value="181"/> <input type="text" value="102"/>
<input type="button" value="Update"/>	

6.0 UART Control (RS-232)

The ATC-1000 support three serial types: RS232, RS422 and RS485, The user can reference hardware diagram to directly select RS232, RS422, RS485, no need select by software.

Baud Rate: default **57600**, range 300bps to 230.4Kbps

Character Bits: 5, 6, 7, 8 (default)

Parity Check: **None** (default), even, odd, space, mark

Stop Bits: **1** (default), 1.5 or 2

Hardware Flow Control: **None** (default), CTS/RTS (or Hardware)

ATC-1000 Management Setup

This chapter will show you how to manage ATC-2000's access setting as well as configure E-mail alert and firmware upgrade.

Hi-speed UART the relevant setting, it is basically similar as windows

UART Control

Item	Current value	Setting
Baudrate	57600	<input type="text" value="57600"/>
Character Bits	8	<input type="text" value="8"/>
Parity Type	none	<input type="text" value="none"/>
Stop Bit	1	<input type="text" value="1"/>
Hardware Flow Control	none	<input type="text" value="none"/>
<input type="button" value="Update"/>		

6.0 Search device

Use IPQueryTest.exe this tool can be found above the current LAN IP210, be able to know the IP Address and the MAC Address

```
D:\IP210\NetUart_manual\IPQueryTest3_2012\IPQueryTest.exe
Hello IPQueryTest!
->MacEnum_CloseEnumeration()
<-MacEnum_CloseEnumeration()
IP210NodePtr=8c0250

#No  Nickname      MAC ID          IP Address      DeviceID
IP210NodeArray[0]=[008c0250]
NetUART          [00-00-11-33-ff-00] [192.168.002.001] 0x0001
(21)ProjectName=(Project Name: NetUART)
OptionID=(1)
TelnetPort=(6f00)
OptionID=(2)
TelnetPort=(6300)
check IPQuery_Release
IPQuery_Release(0,008c0250)
```

Below the function is not providing on this part.

7.0 ADC SETUP

1 Select from which channel input

2 Select the input voltage range (the smaller the range, higher precision)

The screenshot shows the ADC configuration interface. On the left, there is a sidebar with 'Administrator' and a list of protocols: 'Telnet', 'UART', and 'ADC'. The 'ADC' protocol is selected. The main area is titled 'ADC' and contains a table with the following data:

ADC Channel	1
Volatage Reference	0 V - 2.5 V
Value	511

Below the table is a green button labeled 'ADC Value Update'. Further down, there are two dropdown menus: 'Change to Channel' (set to 1) and 'Voltage Reference' (set to 0V-2.5V). Red arrows point from text labels to these dropdowns: 'Select channel 1~8' points to the 'Change to Channel' dropdown, and 'Select input voltage' points to the 'Voltage Reference' dropdown. A 'Change Settings' button is located at the bottom.

Press "ADC Value update" button, can get the value of ADC

This screenshot shows the same ADC configuration interface as the previous one. The 'ADC Value Update' button is now highlighted with a red oval. A red arrow points from the left sidebar towards the 'ADC Value Update' button. The table data remains the same: ADC Channel 1, Volatage Reference 0 V - 2.5 V, and Value 511. The 'Change to Channel' dropdown is still set to 1, and the 'Voltage Reference' dropdown is still set to 0V-2.5V. The 'Change Settings' button is still visible at the bottom.